Synthesis of Polypyrrole Nanotubes and Fabrication of Xanthine Oxidase Electrode

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Polypyrrole nanotube films capable of accommodating a large amount of enzyme have been synthesised and characterised. These nanotubes provide large enzyme-substrate contact area within a small volume. Enzyme electrode for the detection of xanthine was constructed by electrochemical immobilisation of xanthine oxidase in polypyrrole nanotube film. The obtained electrode provided fast and linear amperometric response towards xanthine within its concentration range from 0.01 mmol L^{-1} to 1.0 mmol L^{-1}.